21 February 2001

MODIS sensor Working Group (MsWG) Discussion

Agenda

New Items

Band 28 channel 3 gain change (2%), 2001045 and later
RSB degradation
Data monitoring- periodic placement of MODIS data on the web
B5 sub-frame difference (Vermote)

Updates from Previous Meetings

B5 gain adjustment plan (need green light to start)
B26 strips (Moeller)

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Attendance: Guenther, Toller, J. Xiong, Chiang, Esaias, Vermote, Platnick, Moeller, Evans, Kearns, Drake, Young, Wang, Bigger

New Items

· B28 channel 3 gain change

Problem: MCST has observed about 2% gain change of B28 detector 3 since day 2001045. B28 detector 2 has already been designated as OOF detector (>10% gain difference from other detectors).
Recommendation from MCST: Closely monitor this detector's response and examine its SNR/NEdL feature. SBRS (Drake) to check the detector bias effects for the out-of-family detectors in the LWIR FPA. The current B-side LWIR Itwk/Vdet is 79/185 (SMIR Itwk/Vdet is 79/110).
Action: Recommendation accepted.

· RSB degradation

Problem: MCST has studied RSB degradation using the first year on-orbit SD/SDSM calibration data. SD degradation is about 2.5% at 410nm (B8), 1-1.5% at 466nm (B3), and 0.5% at 554nm (B4). Scan mirror degradation (including aft optics) is about 7-8% for B8, 5% for B9, 4% for B3, and 3% for B10. Mirror side 1 (MS1)'s degradation is different from MS2.
Recommendation from MCST: Apply time-dependent m1 in L1B to eliminate/reduce the degradation impact on the product. Interpolate or extrapolate m1 from a series of m1 LUTs.
Action: MCST needs to study the number of m1 LUTs needed in the L1B and how far m1 can be extrapolated forward from the existing and future degradation trending (Bigger

also asked MCST to consider possible exponential degradation trending). Bruce also wants MCST to circulate a writing reports on the time dependent m1 (reduce the known RSB degradation impact) by mid-March before the April re-processing.
Remaining Concern: Possible AOI dependent mirror degradation (MCST and Miami Team).

· MCST images on the Web

Issue: MCST plans to provide weekly images (JPEG 8-bit) of selected granules on MCST web, including information of granule name, central latitude and longitude, PGE version number, link to detector quality flags and capability of navigating among images from different weeks.
Suggestions from Meeting Participants: Put known issue related images on the web, provide global saturation (%), and other QA information (for RSB) on the web, and consider the L1A images for comparison.
Action: MCST will consider above suggestions and reexamine our objective and approach.

· B5 sub-frame difference (Vermote)

Problem: Eric Vermote showed his B5 sub-frame difference problem (charts included in the distributed agenda). Possible systematic offset over a broad range for most of the detectors in that band. The apparent offset is different for the known OOF and noise detector.
Recommendation from MCST: We are doing a systematic study (SRCA testing etc.) to get enough information to fully understand this problems. Like to finish this before we do other "possible" solutions.

Updates from Previous Meetings

· B5 gain adjustment plan

MCST has provided a plan of changing B5 gain (G3). This will increase the current Lsat. Needs to coordinate with SBRS (R. Drake) and S. Platnick on the final % of change.

· B26 strips (Moeller)
Chris Moller provided additional information (charts) on B26 striping at different radiance levels. MCST is currently examine this problem from the SD m1 calibration, nighttime, and daytime B26 data collects. MCST is also looking the possibility that B26 and B5 sub-frame concerns may be related.

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Bob observed striping variation from scan to scan (granule 2000102.2105 over Hawaii). He also pointed out that the detector 1 of all ocean color bands has different response than the other detectors.

Eric asked if the PC crosstalk is related to B31-B32 issue (the change of B31 and B32 temperature difference across the coastline). MCST found this effect is due to the co-registration problem between these two bands.

Steve pointed out for a couple of the long wavelength RSB bands, the m1 trending showed slight increase of the detector response (1% or less). He and Bob suggested adding the uncertainty to the trending charts.